

Claims;

1. An ink-jet recording method comprising the step of;
providing an ink to an ink receiving sheet,
wherein the ink comprises fine resin particles, a
water-soluble dye, water and an organic solvent, and the ink
receiving sheet comprises a support and a porous ink
receiving layer having pores provided on the support, and
the ink and the ink receiving sheet satisfy the
following formula
$$|D_{L10} - D_{M50}| \leq 170 \text{ nm},$$

wherein D_{L10} is the particle diameter at which 10
percent of the fine resin particles in number have a diameter
from a minimum diameter D_{L0} up to and including D_{L10} , and
 D_{M50} is the pore diameter measured using a mercury
porosimeter at which 50 percent of the pores in volume have a
diameter from a minimum diameter D_{M0} up to and including D_{M50} .
2. The ink-jet recording method of claim 1, wherein $D_{L10} - D_{M50}$ is not more than 65 nm.
3. The ink-jet recording method of claim 1, wherein $D_{L10} - D_{M50}$ is not less than 0.

4. The ink-jet recording method of claim 1, wherein $D_{L10} - D_{M50}$ is not less than 20 nm.

5. The ink-jet recording method of claim 1, wherein polydispersity index (PDI) of the particle diameter distribution of the fine resin particles in the ink is from 0.1 to 0.3,

$$PDI = (D_{L90} - D_{L10}) / D_{L50}$$

wherein D_{L10} is the particle diameter at which 10 percent of the fine resin particles in number have a diameter from a minimum diameter D_{L0} up to and including D_{L10} , D_{L50} is the particle diameter at which 50 percent of the fine resin particles in number have a diameter from a minimum diameter D_{L0} up to and including D_{L50} , and D_{L90} is the particle diameter at which 90 percent of the fine resin particles in number have a diameter from a minimum diameter D_{L0} up to and including D_{L90} .

6. The ink-jet recording method of claim 1, wherein an average particle diameter of the fine resin particles in the ink is from 10 to 150 nm.

7. The ink-jet recording method of claim 1, wherein the ink receiving layer contains fine resin particles.

8. The ink-jet recording method of claim 1, wherein D_{M50} in the pore diameter distribution curve in the ink receiving layer is from 15 to 40 nm.

9. The ink-jet recording method of claim 1, wherein minimum film forming temperature (MFT) of the fine resin particle in the ink is from 0 to 60 °C.

10. The ink-jet recording method of claim 1, wherein surface roughness of the ink receiving layer is not more than 10 nm.

11. The ink-jet recording method of claim 1, wherein the support of the ink receiving sheet has a continuous layer of a thermoplastic resin.